MARINE RECREATIONAL INFORMATION PROGRAM

FY Project Plan

Video Assessment of Recreational Discards

Created on

1. Overview

1.1. Background

The Marine Recreational Information Program (MRIP) Discard Workgroup was formed to identify and test methods for the collection of more detailed information about released catch than is currently available through MRFSS.

The assessment and management of commercial and recreational fisheries for offshore species has relied heavily on fisheries-dependent data. While fisheries-dependent monitoring programs have developed reasonably accurate measures for the available harvested portion of the catch, fish removals attributed to discard mortality are not directly quantifiable. Simply estimating the number of fish released provides no information on the size, age or condition of the discarded fish which is necessary for assessing total fishing mortality. Recreational fisheries have grown in recent years and in many areas account for a larger portion of the total fishery than the commercial industry. For the recreational sector, size limits have been increased, bag limits have been reduced and, in recent years, the length of recreational fishing seasons have been adjusted in response to harvest levels that continue to challenge management targets. Recent efforts to control harvest in recreational fisheries have had the unintended consequence of increasing the numbers of released fish that are vulnerable to post-release mortality. In tightly regulated fisheries, the number of released fish can far outnumber the harvested portion of catch and mortality of released fish has the potential to exceed harvest. Therefore, an important component of fisheries management is the identification of size and age distributions for released fish (discards).

For fisheries-dependent surveys of recreational fishing, the increasing number of released fish has translated into a growing portion of catch that are unavailable for direct observation. Numbers of discarded fish are more difficult to quantify with precision than harvested catch, due largely to the fact that current methods rely on angler recall sometime after the trip has occurred. Currently there are no indices that compare the actual number of discards to the number of discards that the angler recalls at the time of interview. This uncertainty in the reporting of the total number of fish per species, species composition and size distributions of the discarded catch has forced managers to use more conservative estimates for stock assessments of overfished species. New methods for collecting catch data from recreational fisheries are needed to address the fundamental shift from harvest to largely catch-and-release fishing so that direct estimates can be made for discard numbers and size at age.

There has been some work done with cameras in commercial fisheries to identify and quantify catch and to supplement or reduce observer-based programs. In most cases, the camera or cameras are used to record and store video of the fishing activities that is later examined to identify and count the fish encountered. Due to the lower cost of cameras in relation to fisheries observers, enhanced coverage of a fishery is possible. Cameras have the added benefit of creating a permanent digital copy of the trip which can be examined repeatedly. Although all

fisheries monitoring techniques are believed to have the capability to alter the behavior of the angler, it is believed that cameras have the potential to modify angler behavior the least of all potential methods.

1.2. Project Description

1. Develop a camera monitoring system for recreational vessels and pilot test the camera system in St. Petersburg, FL. The pilot will investigate the efficacy in observing discarded fish using a camera system. Participants in the pilot are vessels that have volunteered to test out the camera system and that have a variety of vessel designs.

The camera system should be able to:

-Be portable
-Quick to install
-Observe all discards
-To check for participant compliance
-Self powered or able to be powered by a variety onboard power supplies
-Provide sufficient resolution to identify discards to species and record lengths
-Be able to function in the marine environment without failing or needing extensive maintenance.

2. Develop the methodology for vessels to obtain, install, use, and return the camera system.

3. Develop the methodology for collection and subsequent biological sampling of EFP fish collected on testing trips.

4. Evaluate the use of cameras on recreational vessels using:
-Effectiveness of cameras for observing discards
-Effectiveness of cameras for species identification
-Effectiveness of the camera for obtaining length measurements
-Cost per unit
-Support within the recreational fishery for this kind of monitoring
-Ability to provide information not available in standard MRFSS interviews
-Ability to obtain information on recreational anglers typically undersampled by MRFSS

1.3. Objectives

The proposed study requests MRIP funds to design, develop, construct, test, and implement a camera system for recreational vessels. This study will also directly measure both harvested and discarded reef fish species caught on private recreational fishing trips using an Exempted Fishing Permit (EFP). Vital data will be collected on the size, age, and species composition of the portion of the catch that would normally be discarded. These data will then be compared to what is

recorded by the cameras to calibrate their effectiveness for discard estimation.

1.4. References

2. Methodology

2.1. Methodology

Steps for accomplishing each Deliverable:

Objectives 1-3:
-Develop a Written Quotation Purchasing Request through FL FWC to select a vendor from available technology development entities with the ability to design and produce a camera system fulfilling our needs.
-Work with selected vendor to develop and produce a camera system.
-Test the initial camera system on a single vessel in a series of shakedown cruises.
-Work with the vendor to sole any problems arising during the initial testing phase and complete the design work on the camera system.
-Train recreational vessel operators in how to use the equipment.
-Train additional project staff on biological sampling methodologies.

Objective 4:
-A report of the pilot project's findings and recommendations will be submitted to the MRIP Operations team and shared with the discard workgroup.

Pre-implementation Tasks:
Obtain necessary information from participating vessels so that the EFP can be applied for and received in a timely manner. Select an entity to assist with the development of the camera system using the Written Quotation Purchasing Request. Recruit more team members and select field biologists for the testing phase.

Implementation Activities:
Develop a camera system for recreational vessels. Test the camera system. Finalize the camera system. Observe recreational fishing trips with the camera system. Distribute quarterly status reports to appropriate groups. Analyze video data to identify and enumerate discarded catch. Develop analyses to determine the effectiveness of camera systems. Develop a calibration index for camera discard estimates.

Post Implementation Activities:
Document results and make recommendations. Describe feasibility and limitations of the effective methods. Describe failures and reason for ineffective methods. Develop further testing methodologies for additional regions if necessary.

2.2. Regions

2.3. Geographic Coverage

2.4. Temporal Coverage

2.5. Frequency

2.6. Unit of Analysis

2.7. Collection Mode

3. Communications Plan

3.1. Internal

3.2. External

4. Assumptions and Constraints

4.1. New Data

4.2. Track Costs

4.3. Funding Vehicle

Gulf FIN Grant

4.4. Data Resources

4.5. Other Resources

4.6. Regulations

4.7. Other

An EFP will need to be obtained for participating vessels, requiring all vessel operators to be checked by NMFS law enforcement. Participating vessel operators and field staff will need training as to how to set up the camera system on the vessel. Vessel operators will also have to be instructed to fish as they normally would and not modify their behavior. There will be data handling, entry and quality control needs to support the study. Project Team member's agencies will provide staff time to participate and additional funding may be available to support agencies where resources are deficient.

Sufficient time will need to be devoted to camera development and testing to ensure that the testing phase will proceed smoothly. A methodology will need to be developed to read the videos obtained from this study. Guidelines will need to be developed for participating vessels to ensure that normal fishing is occurring while being monitored.

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

6.2. New Data Sets

6.3. New Systems

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost Estimates

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00